Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
In the Matter of Wireless Communications	)	RM No. 11614
Association International Petition to	)	
Amend Section 27.53(m) of the	)	
Commission's Rules	)	
	)	

To: The Commission

Comments of EIBASS

Engineers for the Integrity of Broadcast Auxiliary Services Spectrum (EIBASS) hereby respectfully submits its comments in the above-captioned Petition for Rulemaking relating to relaxed out-of-band-emissions (OOBE) for Part 27 Broadband Radio Service (BRS) and Educational Broadband Service (EBS) stations.

I. EIBASS Objects To the Proposed Relaxation To the BRS OOBE Requirements Because It Could Result in Greater Interference to Both TV BAS Channel A10 and Channel A9 Stations

1. The Petition for Rulemaking filed by the Wireless Communications Association International (WCAI) proposes to amend Section 27.53(m) of the FCC rules by allowing a doubling of the amount of OOBE, from a suppression of at least $43 + 10\log_{10}(P)$ dB at the channel edges, to a suppression of just $40 + 10\log_{10}(P)$ dB, where P is unmodulated carrier power in watts. Beyond 5 MHz below the lower channel edge, and beyond 5 MHz above the upper channel edge, the OOBE suppression requirement would return to either $43 + 10\log_{10}(P)$ dB, or to $55 + 10\log_{10}(P)$ dB at ±X MHz removed from the channel edges, where X is the greater of 6 MHz or the channel bandwidth X.

2. EIBASS objects to the proposed relaxation in the OOBE limits for Part 27 BRS/EBS stations because it could result in increased interference from BRS Channel 1 operations at 2,496–2,502 MHz not only to indefinitely-grandfathered TV Broadcast Auxiliary Services (BAS) Channel A10 stations at 2,483.5–2,500 MHz[1], but also to non-grandfathered TV BAS

[1] The ULS shows 64 TV BAS Channel A10 licenses, of which 62 are TV Pickup stations, one is a studio-to-transmitter link (STL) station, and one is a TV Translator Relay station.

Channel A9 stations at 2,467–2,483.4 MHz. As shown by the attached Figure 1, for an aggregated, twenty-MHz wide BRS handset with its lower channel edge at the BRS Channel 1 lower channel edge, the increased interference could extend all the way down to 2,476 MHz; this could completely encompass TV BAS Channel A10, and overlap a significant portion of TV BAS Channel A9.

3. As newcomer stations, BRS1 licensees are obligated to protect all earlier-in-time, co-primary, TV BAS Channel A10 and A9 operations. Because the majority of these stations are mobile TV Pickup stations, this means that BRS1 operations involving mobile/handheld devices (MHDs) and analog TV BAS Channel A10 TV Pickup operations cannot co-exist in the same market, since there is a 4 MHz *co-channel* overlap, and both involve operations at not-known-advance locations at not-known-in-advance times. Increased interference to TV BAS Channel A9 operations could also be caused, although probably not the "spectrum train wreck" situation for BRS1 and A10.

4. As previously documented by SBE, and as recently re-documented by MSTV/NAB in its October 25, 2010, WT Docket 10-153 filing[2], a handheld 4G transmitter could be in close proximity to an omnidirectional receiving antenna on the roof of an electronic news gathering (ENG) van, used to receive the signal from a low-power (250 mW or less[3]) transmitter often installed on the back of a manpack camera. For example, the manpack camera could be transmitting on TV BAS Channel A9 to relay the feed to an ENG truck within a few hundred feet. That incoming signal would then be retransmitted using the ENG truck's mast-mounted 2 GHz transmitter, to an available fixed ENG-RO site. The signal would then typically be relayed back to the TV station's studio by a 13 GHz TV Inter City Relay (ICR) link. So it is entirely possible that one 4G handheld device being operated next to the ENG van's receiving antenna could cause adjacent-channel interference that would not exist under the current OOBE limits.

5. Another scenario would be a 4G handset being operated from an observation platform near the top of a high-rise building, that also has a fixed ENG-RO site. These sites typically use receivers with noise thresholds of -95 dBm, often with an antenna mounted low-noise amplifier

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[2] At page 4: "A shorthaul use would be, for example, a transmission from a mobile "backpack camera" inside a government office building to the ENG truck located on a nearby street. And at page 9, footnote 9: "And there is risk that the backhaul site could cause interference to the [ENG] truck (which may be receiving a shorthaul communication from a backpack camera, for example)."

[3] Because Section 74.655(b) of the FCC rules exempts TV Pickup transmitters with transmitter powers of 250 mW or less from the equipment Certification or Verification requirements, manpack camera transmitters generally do not exceed this power level. Additionally, battery power drain is also an issue for a portable transmitter.

to maintain the systems noise figure. Again, even a single nearby BRS Channel 1 handheld device could be an interference threat if operating with the proposed relaxed OOBE limits.

6. In its various comments to the IB Docket 02-364 rulemaking, the Society of Broadcast Engineers, Inc. (SBE) proposed that the 2.5 GHz TV BAS band be converted to digital and TV BAS Channels A8, A9 and A10 be re-packed to 12 MHz wide digital channels, starting at 2,450 MHz; see the attached Figure 2. Doing so would have not only eliminated the conflict with BRS Channel 1, but also with then proposed, and now adopted, Mobile Satellite Services (MSS) Ancillary Terrestrial Component (ATC) stations at 2,487.5–2,493 MHz. As an interim solution with respect to BRS1 operations (but not MSS ATC operations), grandfathered TV BAS Channel A10 stations could convert to digital operations and shift their center frequency downwards by 2.25 MHz, to thus no longer be co-channel with BRS Channel 1 operations. However, even if grandfathered A10 stations were to do so, the proposed relaxed OOBE limits for BRS operations could increase the interference into such digital A10d1 operations. And also to future A10d2 operations, if the SBE band plan is adopted by the Commission.

7. EIBASS is therefore disappointed that after multiple filings by both SBE and EIBASS[4], WCAI could file a petition for rulemaking that doesn't even acknowledge the existence of 2.5 GHz Part 74 TV BAS operations.

II. The Commission Needs To Adopt the SBE-Proposed 2.5 GHz TV BAS Band Plan

8. EIBASS is at a loss to understand why the Commission has not adopted the 2.5 GHz TV BAS band plan proposed by SBE in 2004. Had the Commission done so, the refarming of the 2.5 GHz band could have been accomplished at little incremental cost to MSS ATC entities and BRS entities. With the completion of the 2 GHz TV BAS band from analog to digital on July 15, 2010, though, this opportunity has now passed. Pursuant to the policy established by the Commission in the ET Docket 92-9 "Emerging Technologies" rulemaking, the newcomer user(s) must pay all reasonable and prudent relocation costs of the incumbent user(s), in this case all 2.5

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[4] See SBE filings to General Docket 82-334 (Policy for Certain Bands Between 0.947 and 40 GHz); ET Docket 94-32 (Return of Below-5 GHz Federal Spectrum to the Private Radio Sector); ET Docket 90-314 (Personal Communications Services); ET Docket 92-9 (Redevelopment of Spectrum To Encourage Innovative Use of New Telecommunications Technologies); IRAC Docket 30063 (to codify the long-standing informal sharing of 2 GHz TV BAS frequencies by NASA); ET Docket 95-18 (MSS); IB Docket 01-185 (MSS ATC); IB Docket 02-364 (MSS ATC); ET Docket 00-258 (3G Services Below 3 GHz); WT Docket 02-55 (Improving Public Safety Communications in the 800 MHz Band); and even WT Docket 03-66 (BRS/EBS Stations). See EIBASS filings on December 1, 2009 (IB Docket 02-364. MSS ATC) and on September 15, 2010 (ET Docket 10-142, MSS Flexibility).

GHz TV BAS licensees. That cost to the displacing newcomer MSS ATC and BRS operators will now be substantially higher. However, that delay is not due to any inaction on broadcasters' part. Until such refarming, EIBASS asks the Commission to place a restriction that the requested relaxed OOBE limits not apply to any BRS operation that is within 14.5 MHz (*i.e.*, 20 MHz minus 5.5 MHz) of the BRS Channel 1 lower channel edge, until such time as TV BAS Channels A8, A9 and A10 are converted to TV BAS Channels A8d, A9d, and A10d2.

III. Summary

9. The WCAI Petition did not even mention grandfathered TV BAS A10 operations, or TV BAS Channel A9 operations. The WCAI proposal would result in increased interference to 2.5 GHz TV BAS operations, and must be modified so that there is no increase in the allowable interference to the lower-adjacent band TV BAS operations. Further, deployment of BRS Channel 1 cannot go forward until grandfathered TV BAS Channel A10 operations are at least converted to digital and operate with an interim 2.25 MHz downward shift in the channel center frequency, to eliminate the "spectrum train wreck" co-channel overlap with BRS Channel 1. Under the Commission's Emerging Technologies policy, MSS ATC and BRS operators are responsible for paying all reasonable and prudent costs associated with this refarming of the 2.5 GHz TV BAS band.

List of Figures

10. The following figures or exhibits have been prepared as a part of these RM-11614 comments:

1. Figure showing increase in interference to 2.5 GHz TV BAS operations under the rule change proposed by WCAI.

2. SBE proposal to re-farm the 2.5 GHz TV BAS band, to eliminate conflicts with both BRS Channel 1 and MSS ATC operations.

Respectfully submitted,

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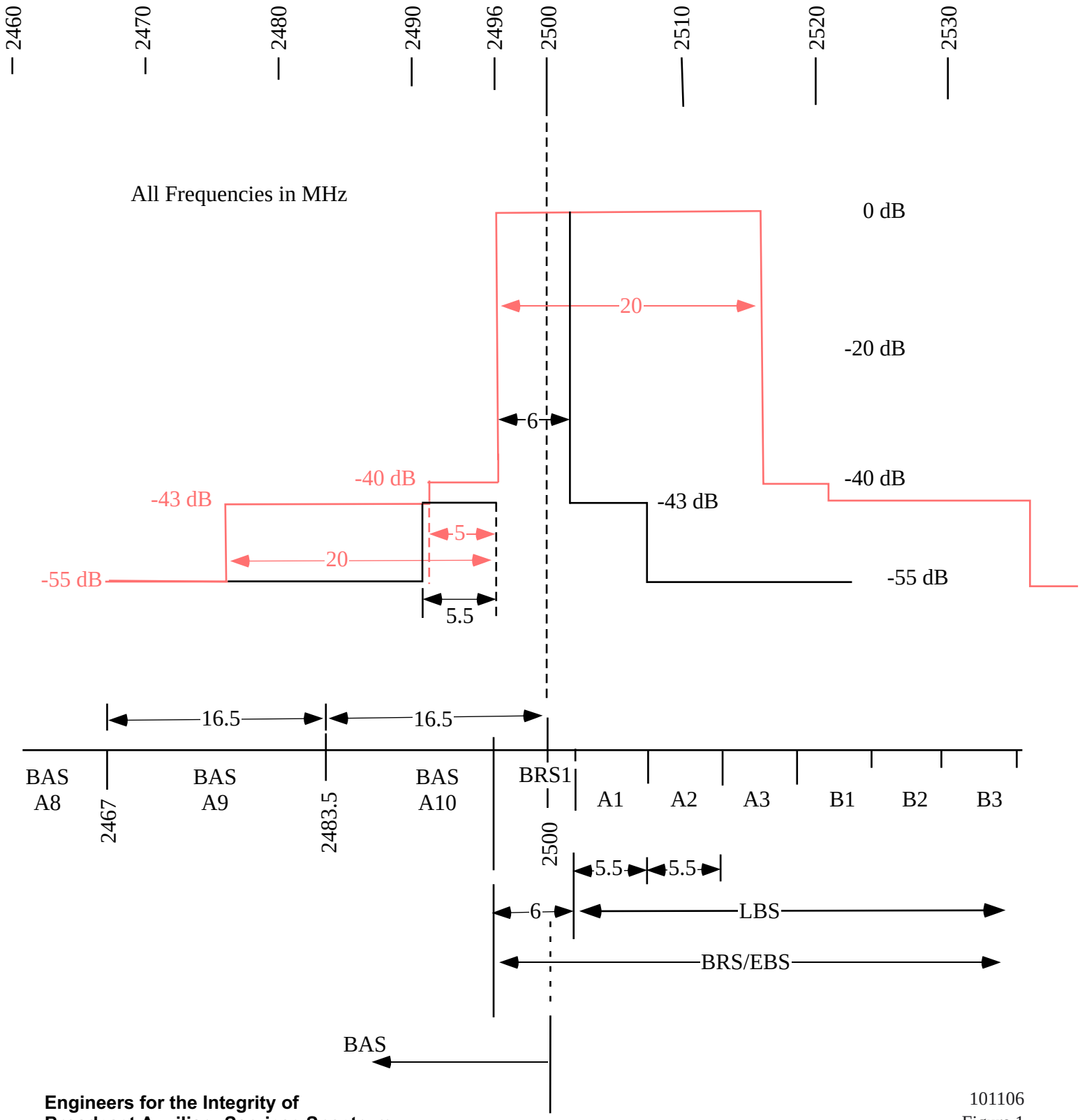
EIBASS Comments: RM-11614, Relaxed OOBE for BRS/EBS

20 MHz Wide 4G Channel with Its Lower Edge at the Lower Edge of BRS Channel 1



Engineers for the Integrity of Broadcast Auxiliary Services Spectrum

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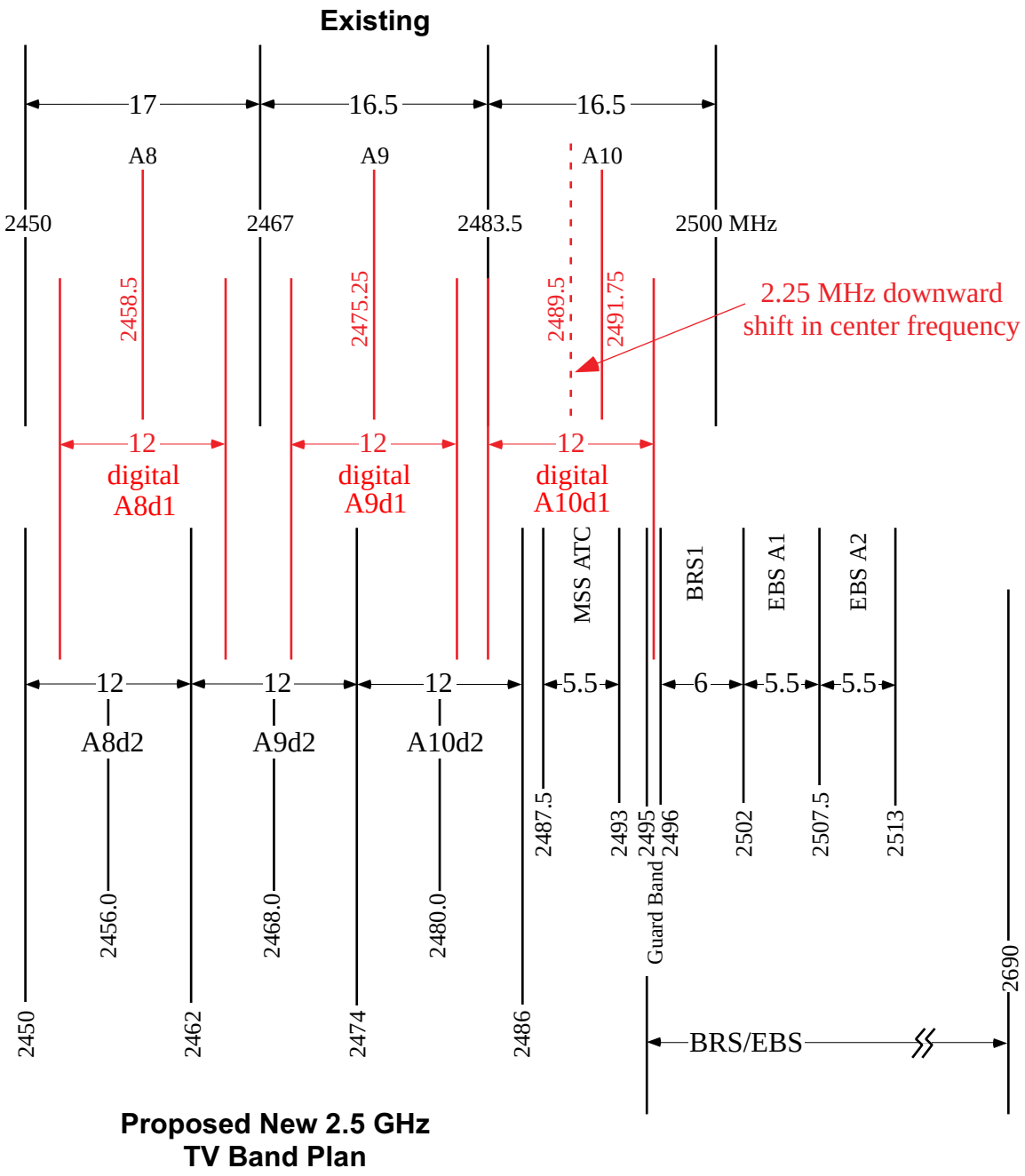
Figure 1

EIBASS Comments: RM-11614, Relaxed OOBE for BRS/EBS

SBE Proposed Refarming of the 2.5 GHz TV BAS Band
(from IB Docket 02-364, MSS ATC)



All frequencies and bandwidths are in MHz.